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ACE PLAN

Aviation Capacity
Enhancement Plan



U.S. Department of Transportation
Federal Aviation Administration

2001

Aviation Capacity
Enhancement Plan

BUILDING CAPACITY TODAY FOR THE SKIES OF TOMORROW

Federal Aviation Administration
Office of System Capacity

December 2001

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The Aviation Capacity Enhancement (ACE) Plan is published annually by the Federal Aviation Administration's (FAA) Office of System Capacity. Its purpose is to provide the aviation industry with a summary of significant accomplishments of FAA-related programs, technologies, and initiatives affecting the capacity of the National Airspace System. The ACE Plan's audience consists of airports, airlines, aviation organizations, and academia that have a vested interest in U.S. aviation. The ACE Plan is also distributed to members of Congress.

The ACE Plan contains data for Fiscal Year (FY) 2000 (October 1, 1999–September 30, 2000) and for Calendar Year (CY) 2000. Since forecasts are available only for fiscal years, all data relating to those forecasts are for fiscal years. Other data, such as delays, are presented for the most recent calendar year. Appendices B and C provide comparative data for last 3 fiscal and calendar years.

Chapter 1 – Capacity Benchmarks

Contains an overview of the FAA's Airport Capacity Benchmark Report released in 2001, which documents the number of flights that can be handled under optimum and less than optimum weather conditions at 31 of the busiest U.S. airports. Initiatives to enhance capacity at the eight most delayed airports in the United States are also described.

Chapter 2 – National Airspace System Performance and Aviation Activity

Summarizes current and projected aviation activity and discusses the performance of the National Airspace System. It also discusses new sources of demand for air traffic services, such as new large aircraft and regional jets.

Chapter 3 – Airport Capacity, Analysis and Enhancements

Contains an overview of airport development, including the FAA's initiatives to improve the timeliness of the environmental review process, and an update of airport construction projects.

Chapter 4 – Airspace Design

Summarizes FAA programs to redesign airspace to maximize efficient traffic flow. Describes recent progress in addressing seven airspace choke points, the development of area navigation routes, and initiatives to consolidate control of busy airspace within a single facility to enable closer spacing of aircraft and more efficient routing.

Chapter 5 – Operational Procedures

Offers an update on new and proposed procedures to increase capacity with little or no investment in airport infrastructure or equipment. It also includes an update on the Spring/Summer 2001 (SS 2K+1) Plan building upon the program that began during the previous year.

Chapter 6 – National Airspace System Modernization

Contains an overview of the FAA's NAS modernization efforts as outlined in the Operational Evolution Plan (OEP), including its short-, mid- and long-term outlook.

The chapters are supported by additional information on aviation activity and construction projects at the 100 U.S. airports in a series of appendices:

Appendix A

Describes the basic elements of the National Airspace System and includes information on commercial and general aviation airports.

Appendix B

Provides historical, current, and forecast information on passenger enplanements and aircraft operations, at the top 100 U.S. airports, as ranked by enplanements.

Appendix C

Summarizes the status of the recommendations of completed Capacity Enhancement Plans.

Appendix D

Summarizes runway construction projects that are proposed or planned for 2006 and beyond.

Appendix E

Presents airport layouts highlighting current capacity enhancement projects.

Appendix F

Defines acronyms used in the ACE Plan.

Appendix G

Lists the references used to prepare the ACE Plan and credits for materials from FAA and non-FAA sources.

2001 – A Year of Unprecedented Challenges

At press time for the 2001 ACE Plan, the long-term impact of the September 11 attacks on both traffic and capacity was uncertain. The attacks resulted in an immediate reduction in air travel, making the FAA's forecasts of aviation activity nearly obsolete. Airlines have been revising their flight schedules, monitoring traffic levels, and conducting analytical modeling to reforecast projected demand. Airports are reviewing their plans to add capacity through the construction of new runways or extension of existing runways. While some airports are continuing with construction plans, others have put their projects on hold.

It is unclear how long the reduction in flight activity will continue. The FAA's ability to accurately forecast demand at individual airports will be limited in the near term. We have chosen to issue the 2001 ACE Plan as it was drafted prior to the September 11 attack since it is too early to accurately assess the lasting impact of these attacks. The 2002 ACE Plan will contain revised forecasts and a summary of how the attacks have affected the NAS.

A New Perspective on Delays

While the aviation industry's focus has drastically shifted from delays to security, through August 2001, the National Airspace System experienced an improvement in performance. The chronic flight delay problems in 1999 and 2000 triggered an extraordinary collaborative effort between the FAA and the aviation industry, resulting in several concurrent initiatives to improve air traffic flow and reduce flight delays. This effort appears to have halted the recent trend of double-digit increases in delays. Delays for January to August 2001 were four percent lower than for the same period for the previous year. In figure I-1, delay by cause is compared for January through September 2000 and 2001:

Figure I-1 Delays by Cause, 2001 vs. 2000

		Delays	Weather	Volume	Equip	Runway	Other
Jan-01	Actual >	27,894	18,660	4,404	204	2,050	2,576
Jan-00	Actual >	26,015	18,744	3,255	1,178	1,008	1,830
	% Difference	7	(0.4)	35	(83)	103	41
Feb-01	Actual >	31,599	23,697	3,827	200	1,491	2,384
Feb-00	Actual >	27,208	18,191	4,111	552	2,215	2,139
	% Difference	16	30	(7)	(64)	(33)	11
Mar-01	Actual >	30,040	20,777	3,750	1,555	1,539	2,419
Mar-00	Actual >	32,205	22,052	4,771	828	1,948	2,606
	% Difference	(7)	(6)	(21)	88	(21)	(7)
Apr-01	Actual >	30,260	21,127	3,605	685	2,130	2,713
Apr-00	Actual >	35,332	24,029	4,469	1,526	1,789	3,519
	% Difference	(14)	(12)	(19)	(55)	19	(23)
May-01	Actual >	36,460	25,044	4,102	788	1,806	4,720
May-00	Actual >	36,570	27,819	3,589	373	1,892	2,897
	% Difference	(0.3)	(10)	14	111	(5)	63

Figure I-1 continued

		Delays	Weather	Volume	Equip	Runway	Other
Jun-01	Actual >	41,607	32,668	4,337	425	1,237	2,940
Jun-00	Actual >	50,114	39,640	3,262	241	2,584	4,387
	% Difference	(17)	(18)	33	76	(52)	(33)
Jul-01	Actual >	40,037	29,072	4,371	650	2,611	3,333
Jul-00	Actual >	44,430	34,611	4,108	217	2,139	3,355
	% Difference	(10)	(16)	6	200	22	(1)
Aug-01	Actual >	49,423	38,306	5,218	444	2,015	3,440
Aug-00	Actual >	47,893	33,339	5,397	452	2,960	5,745
	% Difference	3	15	(3)	(2)	(32)	(40)
Total-01	Actual >	287,320	209,351	33,614	4,951	14,879	24,525
Total-00	Actual >	299,767	218,425	32,962	5,367	16,535	26,478
	% Difference	(4)	(4)	2	(8)	(10)	(7)
Sep-01*	Actual >	18,628	13,406	2,365	70	1,083	1,704
Sep-00	Actual >	43,357	27,094	7,839	131	3,192	5,101
	% Difference	(57)	(51)	(70)	(47)	(66)	(67)

Data Source: OPSNET, FAA

* Sep 01 statistics reflect the impact of the NAS shutdown for 2 days following Sep 11 events and gradual traffic recovery to 85% of system traffic levels.

The FAA has implemented several operational changes that have improved the efficiency of air traffic management. For example, the FAA's air traffic controllers have improved their procedures for processing flights during storms by making more alternate routes available, enabling more flights to fly around the storms. Additionally, the FAA's Air Traffic Control System Command Center (commonly referred to as the Command Center) is limiting the use of ground stops, which suspend flight departures until storm activity subsides. The Command Center is also conducting conference calls with airline and air traffic control representatives every two hours to formulate two- and six-hour plans for addressing problems caused by adverse weather or high traffic volume. The FAA has targeted delays caused by traffic en route by implementing a series of changes to address seven congested airspace regions referred to as "choke points." While air traffic is currently below normal levels, the effects of these initiatives continue to be beneficial.

The Airport Capacity Benchmark Report Assists in Airport Planning

The first chapter of the 2001 ACE Plan highlights a recent FAA report on airport capacity benchmarks for 31 of the busiest U.S. airports. The Benchmark Report provides two rates for each airport—an optimum rate and a reduced rate—based on the number of flight arrivals and departures that the airport can routinely handle under ideal and adverse weather conditions. The Benchmark Report compares scheduled traffic at these airports compares to capacity under the optimum and reduced conditions. It also projects changes to the benchmark rates from the completion of planned capacity enhancements. The Benchmark Report

is featured in the ACE Plan because of its importance in the FAA's efforts to reduce delays and increase capacity this year. The Benchmark Report will serve as a starting point for future analysis of capacity problems and the evaluation of proposed solutions.

The Operational Evolution Plan – the FAA's Commitment to Excellence

The Operational Evolution Plan (OEP) was prepared by the FAA with the collaboration of many industry participants. It was released to the public and presented to Congress in testimony by the Administrator in June 2001. The OEP is an operationally-oriented plan for the evolution of the NAS that integrates and aligns FAA's activities with those of the airports and the airlines. The OEP's capacity enhancements are divided into near-term (2001), mid-term (2002–2005), and long-term (2005–2010) projects. The OEP is a living document that is being continually revised to reflect accomplishments, as well as changes in the needs of the aviation community. As 2001 comes to a close, some OEP projects have been completed and other projects are being reclassified and rescheduled.

A Pragmatic Approach For Continued Progress

Although 2001 was filled with unprecedented challenges, the reduction in chronic delays provides an opportunity for the FAA to implement additional initiatives and to extend the improvements accomplished in 2001 to 2002 and beyond. Air travel remains one of our nation's most vital services and the FAA will continue its commitment to provide a safe, secure and efficient National Airspace System.

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